

**BEFORE THE  
FEDERAL COMMUNICATIONS COMMISSION  
WASHINGTON, D.C. 20554**

In the Matter of	)	
	)	
IP-Enabled Services	)	WC Docket No. 04-36
	)	
E911 Requirements for IP-Enabled	)	WC Docket No. 05-196
Service Providers	)	
	)	

**REPLY COMMENTS OF THE  
TELECOMMUNICATIONS INDUSTRY ASSOCIATION**

The Telecommunications Industry Association (TIA) hereby submits reply comments to the Federal Communications Commission (Commission) in response to the Notice of Proposed Rulemaking (NPRM) in the above-captioned proceeding.<sup>1</sup>

TIA is the leading trade association for the information and communications technology (ICT) industry, with 600 member companies that manufacture or supply the products and services used in global communications. TIA represents its members on the full range of public policy issues affecting the ICT industry and forges consensus on industry standards. Among their numerous lines of business, TIA member companies design, produce, and deploy network and terminal equipment, including equipment used in IP-enabled networks. TIA engineering committees also produce technical standards in

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<sup>1</sup> *IP-Enabled Services and E911 Requirements for IP Enabled Services*, WC Docket Nos. 04-36 and 05-196, First Report and Order and Notice of Proposed Rulemaking (released June 3, 2005).

response to customers, consumers, and the public safety community. As a result, TIA has a substantial interest in current and future Commission decisions and activities related to the development of IP-enabled networks and services and access to advanced 911 capabilities.

TIA applauds the Commission for its diligence in addressing critical public safety issues. TIA urges the Commission to proceed in a manner that not only is mindful of important social obligations like the availability of 911 services, but also continues to foster the development and deployment of promising new communications technologies, like voice over IP (VoIP).

In response to its NPRM and the initial comments, TIA respectfully urges the Commission to refrain from requiring VoIP providers to automatically provide location information by June 2006. The standards development process that will aid the transmission of automatic location information in IP-based networks is well underway in the industry and progress is demonstrable. Any technology mandate or arbitrary deadline for completing these standards efforts will not speed the process. In fact, such actions could well prove to be counterproductive and actually delay the development of necessary technologies and standards.

In addition, TIA urges the Commission to ensure that innovation and technological neutrality are at the forefront of its initiative to bring Enhanced 911 (E911) services to VoIP users. TIA encourages the Commission to afford adequate time for any yet-to-mature technology that facilitates IP-based communications to determine how best, to the extent technically and operationally feasible, to support the emergency response

requirements of consumers and public safety authorities. At the same time the Commission refrains from reflexively imposing legacy regulations or technology mandates on emerging communications platforms, it also should continuously revisit and revise existing regulations to remove outdated requirements and guard against market distortions.

Further, TIA remains acutely sensitive to the public safety needs of persons with disabilities. For this reason, TIA is actively engaged in industry efforts to ensure that emergency services are available to persons with disabilities using VoIP networks. TIA reports on industry's commitment and current ability to comply with Title II of the Americans with Disabilities Act (ADA) requirements that public safety answering points (PSAPs) be directly accessible to text telephones (TTYs).

**I. NECESSARY INDUSTRY STANDARDS EFFORTS FOR PROVIDING LOCATION INFORMATION ARE UNDERWAY AND PROGRESSING, MAKING A TECHNOLOGY MANDATE AND JUNE 2006 DEADLINE UNWISE.**

In accord with commenters, TIA urges the Commission to refrain from requiring that all terminal adapters or other equipment used in the provision of interconnected VoIP service sold as of June 1, 2006 be capable of providing location information automatically.<sup>2</sup> Industry already is proactively and effectively developing standards that

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<sup>2</sup> See Comments of Verizon at 3 and 4; Comments of Time Warner at 3, 9, and 10; Comments of Motorola at 3; Comments of United Online at 10; Comments of Cisco Systems at 10; Comments of Information Technology Industry Council (ITI) at 5.

will aid in providing automatic location information.<sup>3</sup> Imposing an arbitrary deadline will not expedite the process. On the contrary, such a deadline will likely impede development of innovative, sustainable, and efficient *standardized* solutions. A deadline will also disrupt the coordinated activity plans and schedules in place at this time. For these reasons, the Commission should not impose a June 2006 deadline for providing location information automatically.

**A. Industry Has Made Substantial And Demonstrable Standards Progress In The Absence Of Any Deadline.**

Industry has been hard at work developing the necessary standards that underpin the availability of emergency services in VoIP environments. For example, TIA engineering subcommittee TR 41.4 is currently developing SP-3-0185 (to become TIA-1057), *Link Level Discovery Protocol (LLDP) – Media Endpoint Discovery (MED)*. TIA-1057 is an extension of the IEEE 802.1ab LLDP protocol that will allow, among other things, VoIP terminals to discover and report their location for E911 purposes. This standard is nearly ready for publication, applies to any VoIP device connected through an Ethernet interface, and provides a method of conveying location information between the VoIP endpoint and the access equipment immediately upstream from the VoIP endpoint. Thus, in the absence of an FCC technology mandate or deadline, industry has made

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<sup>3</sup> See Comments of Qwest at 1; Comments of the United States Telecom Association at 6; Comments of Motorola at 2 (“Indeed, several groups are in the process of testing a variety of E911 capabilities that will ultimately be used in wireless VoIP, such as 3GPP, 3GPP2, and TIA.”) Industry is also engaged in non-standards-based research. For example, researchers at Intel are currently examining ways to triangulate an individual’s location with Wi-Fi or cellular networks like GSM. Michael Kanellos, “Intel experiments with Wi-Fi as GPS substitute,” CNET News.com (July 12, 2005), *available online at* [http://news.com.com/Intel+experiments+with+Wi-Fi+as+GPS+substitute/2100-7351\\_3-5785565.html](http://news.com.com/Intel+experiments+with+Wi-Fi+as+GPS+substitute/2100-7351_3-5785565.html).

substantial progress toward describing a standard solution for providing location information in VoIP environments.

Imposition by the Commission of a technology mandate or deadline now is misguided because additional standards work must be completed. TIA-1057 is not an end-to-end solution. In some circumstances, only the broadband access provider actually has the ability to determine the location of the VoIP endpoint. In addition, in a true Internet VoIP environment, there may be no relationship between the broadband access provider and the provider of the VoIP application. The location data must be transported via signaling from the VoIP endpoint to the VoIP Call Control application. Consequently, the access network has a critical role to play in providing location information to VoIP endpoints, which cannot autonomously determine their location. For this reason, TIA-1057 requires technical standards support from other organizations including a National Emergency Number Association (NENA) interface that standardizes the delivery of information to PSAPs.<sup>4</sup> An arbitrary deadline from the Commission will thwart rather than facilitate this coordination as the various organizations redistribute limited resources to this effort in light of myriad other ongoing initiatives.

TIA-1057 is not the only standard under development. In a telecommunications systems bulletin, TSB-146, TIA is exploring several potential solutions for supporting emergency location information within the enterprise. In addition, TR41.4 is currently working on PN-3-0172, which sets forth enterprise location information server interfaces and defines the interfaces required for the determination, delivery and communication of

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<sup>4</sup> See Comments of BellSouth at 5.

location information to PSAPs, as well as for updating the PSAP databases used in emergency calling scenarios. NENA and IETF are contributing to the work on PN-3-0172. Progress in this project is ongoing and completion is expected around early to mid 2006. The Commission should not stifle these productive industry efforts to develop technology neutral standards.<sup>5</sup>

Further, TIA, NENA, IETF, and IEEE are collaborating to establish necessary location identification and callback procedures. Progress in PN-3-4726-RV1, or *IP Telephony Support for Emergency Calling Services*, to delineate location identification and callback procedures for IP terminals, to define the scope and method for determining endpoint location and to determine the delivery and correlation of this location information in conjunction with emergency calling services is significant. Conclusion of this work is expected in late 2005 or early 2006. Once completed, the IP Telephony Endpoints and Infrastructures Subcommittee will undertake to make recommendations and define a standard for the implementation of such a system.

The foregoing demonstrates substantial progress in the development of technologically neutral standards. However, there are still some serious technical limitations that impact the ability of VoIP systems to automatically convey location information to the appropriate PSAP. A solution for these technical limitations must still be standardized by the industry before VoIP systems are able to comply with the

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<sup>5</sup> See Comments of the United States Telecom Association at 6 (“The Commission should allow TIA and other standards bodies to continue their search for effective solutions rather than requiring communications providers to spend millions of dollars on interim solutions that will not work reliably.”).

Commission's proposed location requirement.<sup>6</sup> Because voluntary industry activities are well underway and industry-defined open specifications allow innovation and competition, the Commission should not disrupt this technology-neutral process and should not impose an arbitrary and counterproductive June 2006 deadline.

#### **B. Other Public Safety Factors Weigh Against a June 2006 Deadline.**

In addition to compromising progress on industry development of technology-neutral standards, a deadline is not in the public safety interest because it will not aid in the resolution of important issues related to effectively providing E911 service.

TIA agrees with commenters that continuing efforts to implement current E911 requirements are proving to be time consuming and technically complex. The imposition of additional E911 obligations now would not be in the public safety interest because they would divert scarce resources from the ongoing public safety efforts of both industry and the overburdened PSAPs.<sup>7</sup> Moreover, decisions regarding how to effectively cooperate with public safety and emergency services are best dealt with by the companies and engineers who manufacture and develop the products and services themselves.<sup>8</sup> Indeed, industry is practiced at incorporating numerous important social objectives into their development and standardization of new technologies. Based on the VoIP automatic location identification technology neutral standards progress to date, there is

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<sup>6</sup> See also Comments of NENA at 6 ("Arbitrary requirements that are not based on technological capabilities now being addressed in standards development processes should be avoided.").

<sup>7</sup> See Comments of CompTel at 1.

<sup>8</sup> See Comments of Skype at 19; Comments of CTIA at 9.

every reason to conclude that they will continue to do so with respect to E911.

Accordingly, a deadline is not necessary to spur industry activity in this area.

The Commission also asked what performance standards it should adopt regarding the length of time between when an end user updates Registered Location information and when the service provider takes the actions necessary to enable E911 from that new location. The NENA model recommends one day and various states recommend zero to five days, depending on the technology. TIA believes that whichever performance standard the Commission adopts, the phone user should be made aware of the length of time.

Finally, the Commission asks what requirements, if any, should be imposed on providers of interconnected VoIP service in geographic areas served by PSAPs that are not connected to a Selective Router. TIA recommends that the PSAP accept incoming ten-digit numbers, which would be routed into the 911 call taker's queue. Then, the VoIP service provider could route calls through the PSTN to that number.

## **II. THE COMMISSION'S APPROACH TO VOIP E911 MUST BE PRO-INNOVATION AND BE CHARACTERIZED BY TECHNOLOGY NEUTRALITY.**

TIA urges the Commission to ensure that its approach to VoIP E911 service is both technologically neutral and pro-innovation. TIA urges the Commission to afford industry sufficient time to develop standardized solutions for meeting the emergency response needs of consumers and public safety authorities. This is particularly important for those emerging technologies that facilitate IP-based communications that have not



been commercially deployed or are not yet fully mature. For example, WiMAX technology is not yet mature enough to effectively evaluate the best methods for providing E911 or CMRS 911/E911 compliance.<sup>9</sup> The early imposition on this or any other promising new technology of aggressive timelines or requirements – which may not prove to be the most technologically effective – will likely only impede its development and deployment. At the same time the Commission is refraining from reflexively imposing legacy regulations or technology mandates on emerging communications platforms, it also should continuously revisit and revise the existing regulations to remove outdated requirements and guard against market distortions. Such an approach will best further the appropriate goals of promoting innovation while ensuring regulations do not place communications technologies already in the market at a competitive disadvantage.

### **III. INDUSTRY IS COMMITTED TO COMPLYING WITH TITLE II OF THE AMERICANS WITH DISABILITIES ACT REQUIREMENTS THAT PSAPS BE DIRECTLY ACCESSIBLE TO TTYS.**

TIA is committed to meeting the public safety needs of persons with disabilities and complying with Title II of the Americans with Disabilities Act. TIA is actively engaged in industry efforts to ensure that emergency services are available to persons with disabilities using VoIP networks. For example, when industry studies showed that TTY devices used by the deaf and hard of hearing did not operate reliably through VoIP networks, TIA responded. TIA engineering subcommittee TR-30.1 developed TIA-1001,

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<sup>9</sup> See Comments of Motorola at 3; Comments of Cisco Systems at 8; Comments of ITI at 11; Comments of NENA at 12.

*Transport of TIA-825-A Signals over IP Networks*, to address this issue. This standard was approved in October 2004.

TIA-825-A, *A Frequency Shift Keyed Modem For Use On The Public Switched Telephone Network*, is the TIA standard for the modem found in Baudot TTY devices. Although TIA-1001 originally was conceived as a standard to be used in gateways between the PSTN and IP networks, recent investigations by TR-30.1 have shown that it also applies to IP telephones and IP Terminal Adapters. Support for TIA-1001 in IP phones and/or terminal adapters and at the gateway associated with the PSAP would facilitate reliable TTY communications with the PSAPs. Industry efforts on this front are ongoing.

#### **IV. CONCLUSION**

As the foregoing illustrates, the ICT industry is strongly committed to developing solutions that ensure access to advanced 911 solutions for IP-based products and services where consumers reasonably assume such functionality. Standards efforts are active and productive. Establishment of arbitrary and aggressive compliance deadlines or technology mandates very likely will impede and disrupt rather than facilitate these successful efforts. Accordingly, TIA respectfully urges the Commission to refrain from requiring VoIP providers to provide automatic location information by June 2006. In addition, for the reasons set forth above, TIA urges the Commission to ensure that

technological neutrality and pro-innovation concerns are at the forefront of its initiative to bring E911 service to VoIP users.

Respectfully submitted,

**TELECOMMUNICATIONS INDUSTRY ASSOCIATION**

A handwritten signature in black ink, appearing to read "Grant Seiffert".

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